

Remarks for Special Issue on Device Technologies Supporting IT/Network Integration



*Associate Senior Vice President

By Takemitsu KUNIO*

In the last few years, our daily use of IT has evolved and spread at an astonishing rate. The primary factors of this evolution have been the Internet's shift to broadband, and the spread of 3G (3rd generation) mobile phones. It is expected that the Internet connecting area will spread rapidly into digital home appliances and car navigation systems in addition to working in conjunction with personal computers and mobile phones. We believe that that area, either consciously or subconsciously, will continue to grow.

These applications of IT are sure to become increasingly more important as a way to improve the intellectual productivity of humans and make it possible lead better lives at

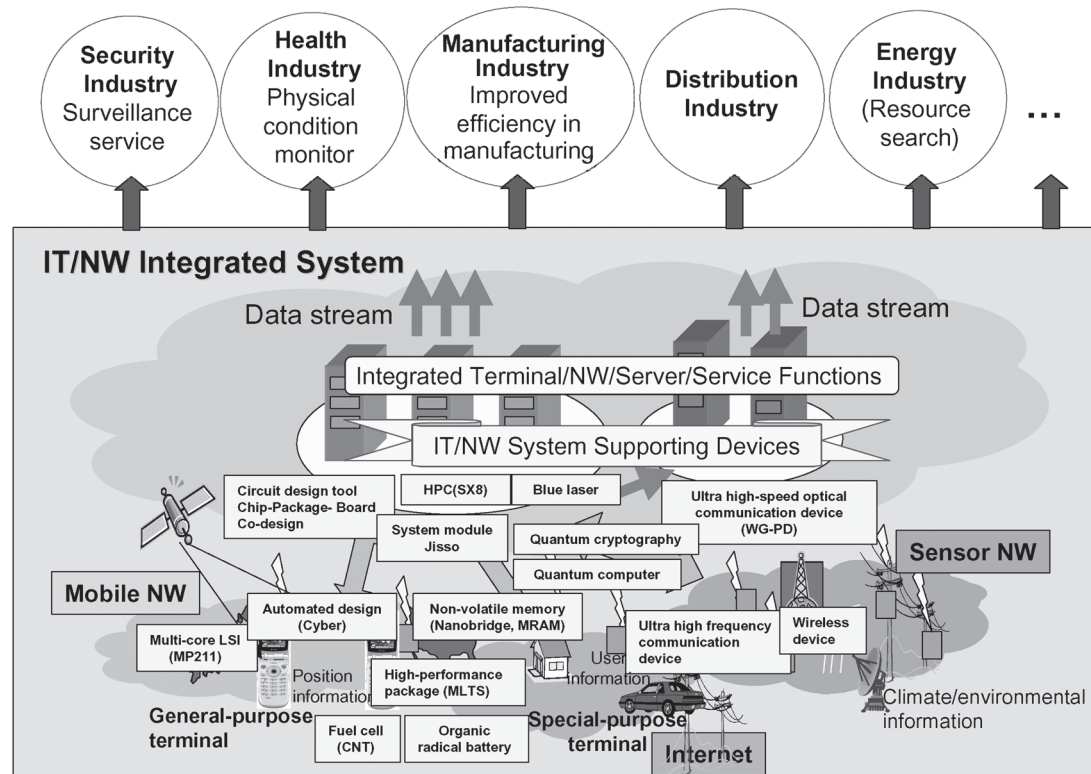


Fig. 1 Devices that support the IT/Network integrated system.

the office and at home. Under these situations, the IT/Network integrated system is the basis for that and it is composed of various device components including network equipment, computers, processors, storage devices, sensors, cameras, microphones and actuators. It is required for a wide range of intelligent devices to support the evolution of the IT/Network integrated system, and for highly evolved services to work mutually in conjunction, to offer functions beneficial to human beings.

The NEC Group is continuously contributing to the advancement of the ubiquitous society by pursuing the synergy of key devices, focused on IT/Network integrated systems and semiconductors. **Figure 1** shows various key devices including semiconductor devices that the NEC Group provides and is developing. Along such a background, this special issue will focus mainly on: devices that support IT/Network integration; devices that support computer systems; devices that support low power consumption in mobile phones which are a crucial element in IT/Network integration; technologies that are critical to mounting devices into equipment; technologies that expand large-capacity communication to wireless equipment; and technologies that prepare for the future increase in capacity of optical communication. In addition the latter half will introduce the leading-edge future technologies that NEC Central Research Laboratories is currently in the midst of developing, in the form of an interview and a brief story.

It is our hope that this special issue will be of value to the engineers at the forefront of ubiquitous system development, and business people relating to the ubiquitous system.